Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Mine Name: **Frank Todecheenie No. 1**
Mine ID: **87**

Navajo AUM Central Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

20074.063.017.0020

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Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: **87**

Map ID: C11

CERCLIS: NNN000909188

Navajo Abandoned Mine Land Reclamation Program: NA-0709a

Local name / Aliases: Todecheenie #1; Frank Todeckeenie

Chapter and local area: Black Mesa

County: Apache **State:** Arizona

Lat/Long: 36.30716359 N / -109.833672733 W

Nearby road and highway: Route 29 **Local Post Office:** Blue Gap, AZ

Surface Land Status: check one or more and provide ownership and contact information below

Tribal Trust Land	☒	**Public lands**	☐
Private	☐	**Tribal Fee Land**	☐
Bureau of Land Mgmt	☐	**Allotment**	☐
State	☐	**Fee land**	☐

Subsurface Mineral Rights:

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The mine surface land status is classified as Tribal Trust Land. Historical documents identified the operator of the mine as Klaner & Associates from 1955 to 1956. No additional historical ownership / lease information was identified in the EPA / AUM database.

Number of residential structures within 200 feet of mine: None

Part II Summary of Radiological Readings

Mine ID: 87

Highest gamma radiation measurement: 317,597 counts per minute (cpm)

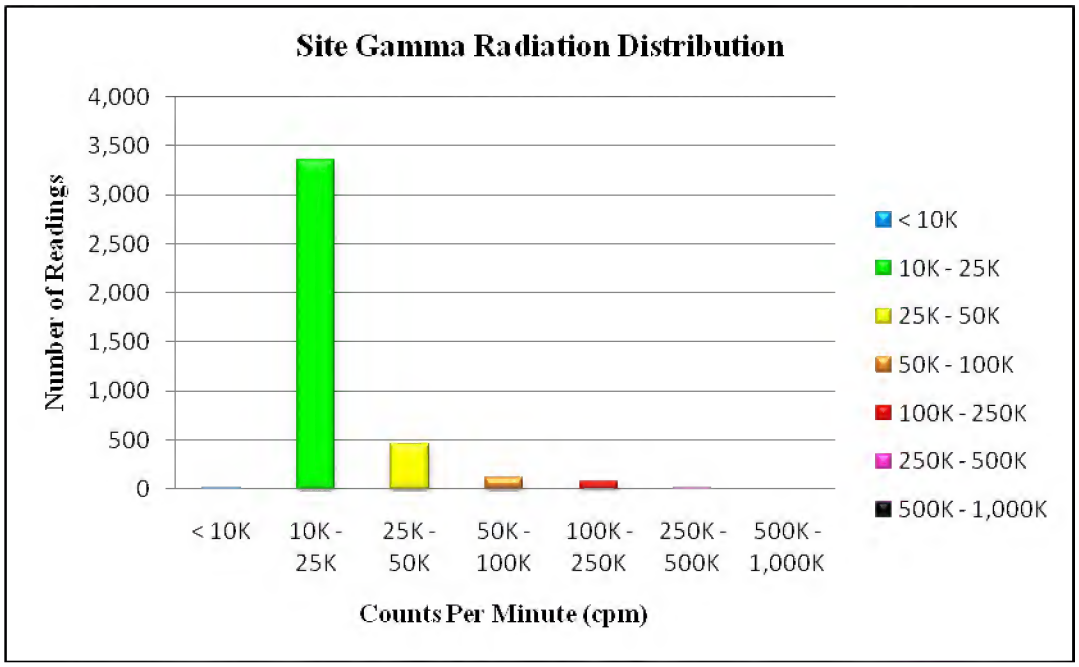
Background Average: 14,317 cpm **Two Times Background:** 28,634 cpm

Describe any other radiological measurements:

A total of 4,000 gamma radiation measurements were collected from the mine site, ranging from 9,448 cpm to 317,597 cpm. Measurements collected in the vicinity of the waste rock and reclamation area were found at a maximum level of approximately 300,000 cpm. The measurements are represented in Figures 1 and 2.

Distribution Chart and Statistics:

Site Gamma Radiation Statistics	
Number of Readings	4,000
Minimum (cpm)	9,448
Maximum (cpm)	317,597
Mean (cpm)	22,939
Median (cpm)	17,193
Standard Deviation	25,250



Part III Status of Reclamation and Mine Waste

Mine ID: 87

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed: Yes **Waste Pile onsite:** No

NAMLRP Project Number: NA-0709a

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2011 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits:
Possible collapsed adit

Waste Piles:
Northern section of site has 4 small waste rock piles, each 20 - 50 yd^3 surrounding potential loading area

Pits:
None observed

Shafts:
None observed

Other Debris and Mine Features:
Entire site appears capped

Part IV Site Observations and Environs

Observed Residential Structures (number and human habitation status of structures at the following distances from mine):

0 to 200 feet: None observed

200 feet to 0.25 mile: None observed

Observed Public or Commercial Structures (schools, clinics, Chapter Houses, places of business and any other structures used by members of the community at the following distances from the mine site):

0 to 200 feet: None observed

200 feet to 0.25 mile: None observed

Levels measured around the perimeter(s) of the identified structure(s):

None

Observed Water Sources (number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine site):

0 to 0.25 miles: None observed

0.25 miles to 4 miles: None observed

Sensitive Environments (all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation):

None observed

Known Site History (information from interviews with Chapter officials and residents and database review, includes: mine ownership, type of mining operation, period of operation, known amount of production, and any other information provided):

The Frank Todecheenie No. 1 mine claim consists of an area of 27,298.13 m^2. The mine was identified as being operational from 1955 to 1956. While operational, the mine had a total reported production volume of 1,362 tons. The mine surface land status is classified as Tribal Trust Land. Historical documents identified the operator of the mine as Klaner & Associates from 1955 to 1956. No additional historical ownership / lease information was identified in the EPA / AUM database.

Part V Response Action Summary

Summary of Evaluation Factors:

Accessibility:

Was the mine easily accessible to potential human activity?
Yes

Radiological Measurements:

Were any gamma radiation measurements collected at the mine greater than two times the site-specific background levels?
Yes

Waste Piles:

Were any unreclaimed waste piles observed at the mine with gamma radiation measurements greater than two times the site-specific background levels?
No

Structures:

Were any structures observed within 200 feet of the mine?
No

Potential Drinking Water Sources:

Were any potential drinking water sources observed within 4 miles of the mine?
No

Reclamation:

Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?
Yes

Part VI Photos

Photo 1: Mine Site #87

Photo 2: Mine Site #87; Drainage

Photo 3: Mine Site #87; Loading area and waste rock

Photo 4: Mine Site #87

Photo 5: Mine Site #87; Possible collapsed adit/shaft

Photo 6: Mine Site #87; Possible collapsed adit/shaft

Part VII Contacts Reports and Information

Name: Eugene Esplain

Title or official role (if any): Navajo EPA Superfund Program

Telephone number: (928) 871-7331

Address: PO Box 2946, Window Rock, AZ 86515

Information provided: Lead Regulatory Agency

Name: _____

Title or official role (if any): _____

Telephone number: _____

Address: _____

Information provided: _____

Name: _____

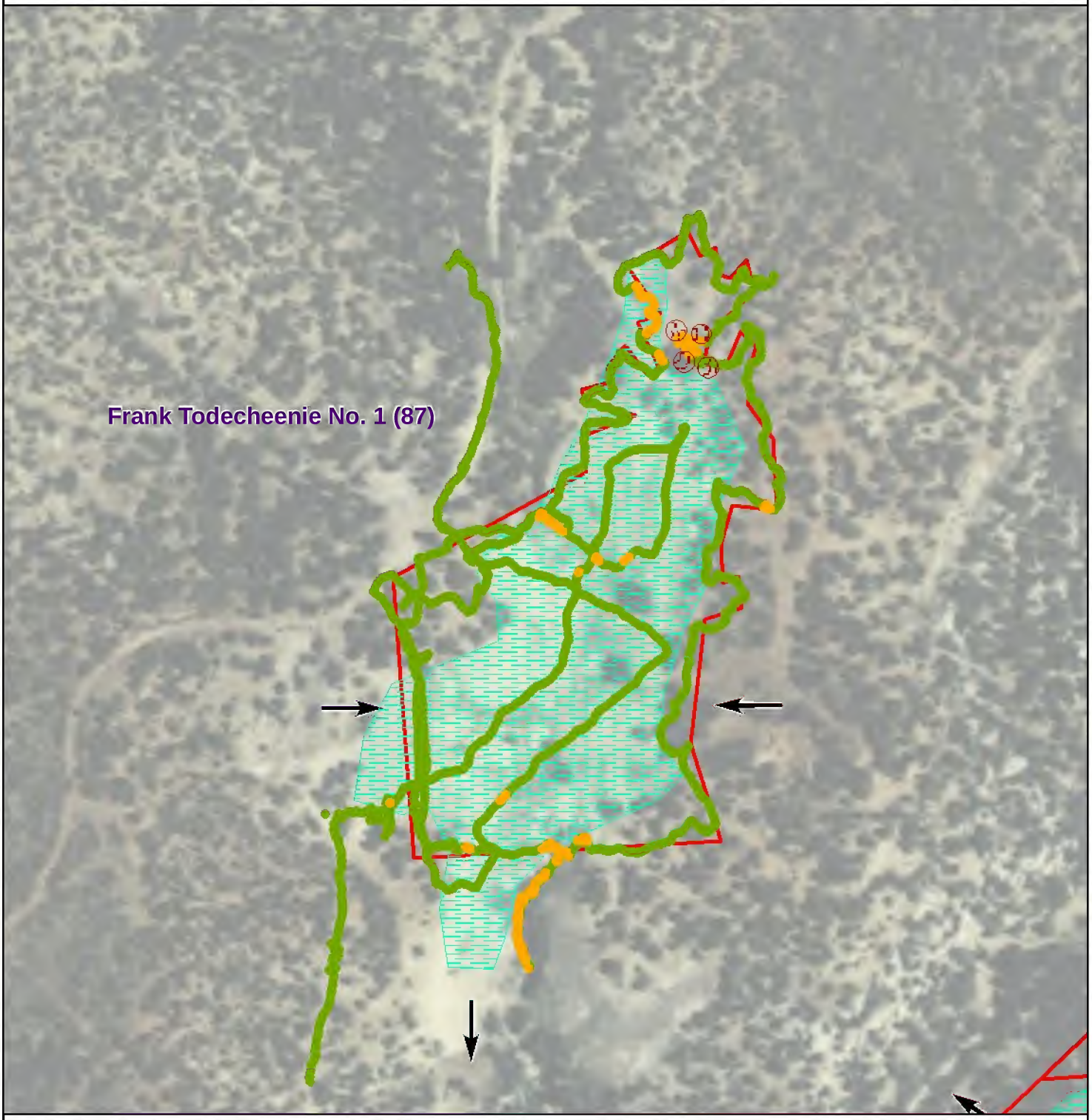
Title or official role (if any): _____

Telephone number: _____

Address: _____

Information provided: _____

Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Frank Todecheenie No. 1 (87)
Black Mesa Chapter, Navajo Nation



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

Measured as counts per minute (cpm)

Average background 14,317 cpm

- Mine Site Boundary
- General Slope Direction
- Observed Reclamation Feature
- Observed Waste Pile
- Observed Structure
- Steep Grade

N

Feet

0 250

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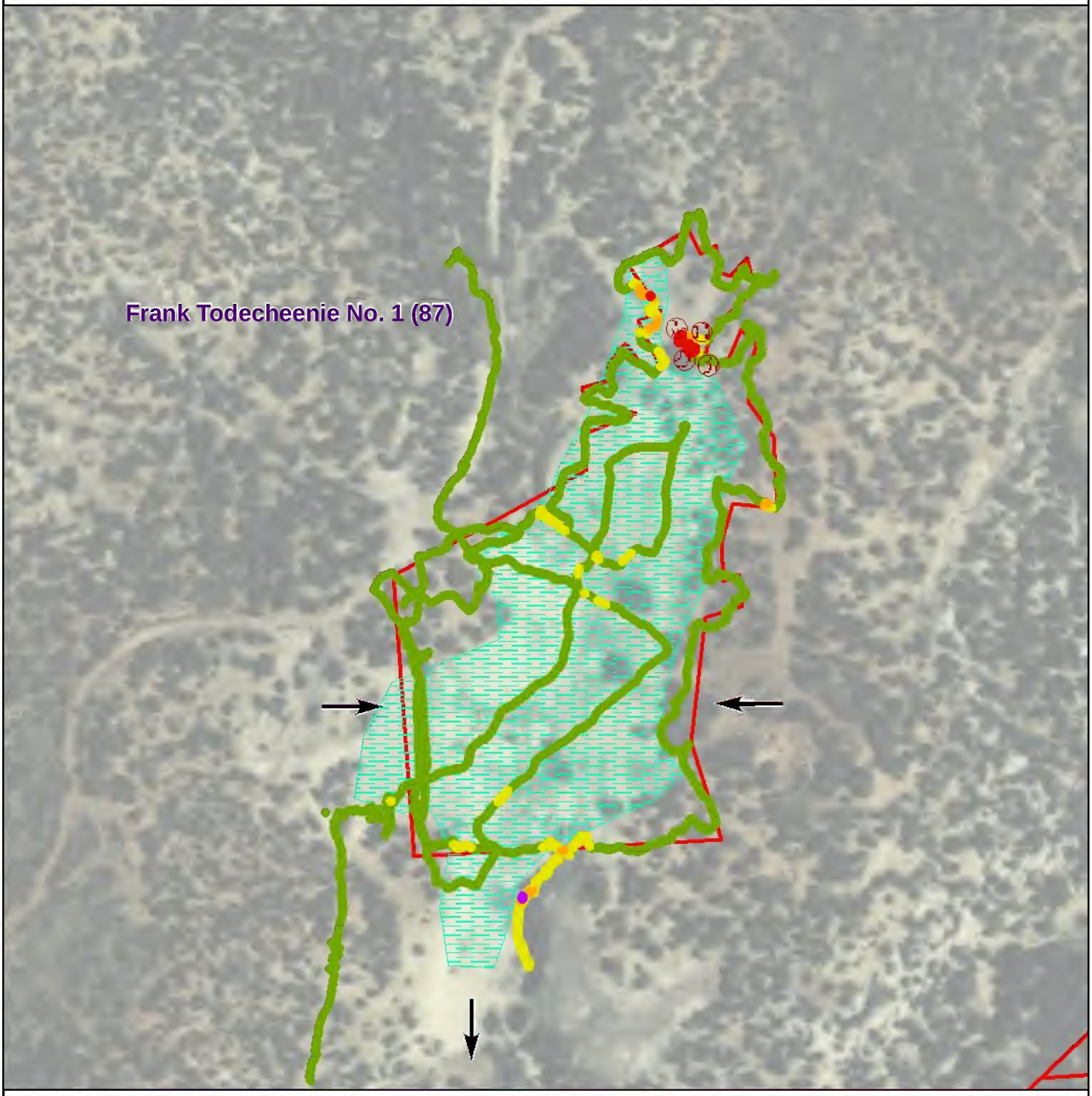
Figure 2 - Gamma Radiation Measurements
Frank Todecheenie No. 1 (87)
Black Mesa Chapter, Navajo Nation



Gamma Radiation Measurements

- 0 - 10,000 cpm
- 10,000 - 25,000 cpm
- 25,000 - 50,000 cpm
- 50,000 - 100,000 cpm
- 100,000 - 250,000 cpm
- 250,000 - 500,000 cpm
- 500,000 - 1,000,000 cpm

Measured as counts per minute (cpm)

Mine Site Boundary

General Slope Direction

Observed Reclamation Feature

Observed Waste Pile

Observed Structure

Steep Grade

Average background 14,317 cpm

N

Feet

0 250

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